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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,619	12/09/2003	John Scott Kennen	10021	5548
35420	7590	12/05/2007		
MICHAEL P. MAZZA, LLC 686 CRESCENT BLVD. GLEN ELYN, IL 60137			EXAMINER CHEUNG, VICTOR	
			ART UNIT	PAPER NUMBER
			3714	
			MAIL DATE	DELIVERY MODE
			12/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/731,619

Applicant(s)

KENNEN ET AL.

Examiner

Victor Cheung

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-18,20-24 and 26-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-18,20-24 and 26-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In response filed 7/18/2007, claims 2, 3, 19, and 25 have been cancelled.

Claims 1, 4-18, 20-24, and 26-39 are now pending.

Claim Objections

2. The claims are objected to because of the following informality:

- Amendments to a claim must be made by rewriting the entire claim with all changes, except when the claim is being canceled. While only a few examples are given below, each claim should be made to include all claim language previously presented. For example:

- o Claim 1, Line 2 should read: -- ~~a hunting instrument~~ an archery bow capable of firing ~~a projectile~~ an arrow; --.
- o Claim 20, Line 1 should read: -- (Amended) The simulated hunting apparatus of Claim [19] 1, wherein the--.
- o Claim 25, Line 1 should read: -- (Cancel) ~~The simulated hunting apparatus of Claim [19] 17, further~~ --.
- o Claim 30, Line 1 should read: -- (As Originally Presented) The simulated hunting apparatus of Claim 29, further --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 20-24 and 26-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 20-24 and 26-37 each contain the limitation "the simulated hunting apparatus" in line

1. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

5. Claims 1, 4, 5, 7, 8, 20, 21, 22, 31, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. (US 2005/0023763) and Pellerite (US Patent No. 7,216,643). Golubic disclose a simulated hunting application (Col. 2: 11-31).

With regard to claims 1 and 38, and the limitation of a hunting instrument capable of firing a projectile, Golubic discloses this feature (See Fig. 1; Col. 1: 10-17).

With regard to the limitation of a mobile data-capturing unit comprising a camera for capturing image data, Golubic discloses this feature (Item 16 in Figs. 1 and 8; Col. 6: 37-43; Col. 9: 1-12).

With regard to the limitation of a mobile display screen for displaying the image data, Golubic discloses this feature (Fig. 6; Col. 2: 42-50; Col. 3: 18-22). With regard to a range finder for determining distance to a target, Golubic discloses this feature (Col. 3: 5-10; Item 32 in Fig. 3; Col. 4: 56-68).

With regard to the limitation of a recording unit for storing the data captured by the data capture unit and the variable data, Golubic discloses that the microprocessor stores the user-entered parameter data (Col. 6: 10-14), and that images captured are recorded on a display/recording unit (Col. 3: 33-41).

With regard to the limitation of image editing software, configured to allow display of at least portions of the flight path of the projectile based at least in part on the calculations performed by the trajectory calculating software, so that the flight path of the projectile may be viewed on the display screen and an impact point on or near the target may also be viewed, Golubic discloses that the display is capable of displaying an impact point along with the images developed by the range finder (Items 62 and 63 in Fig. 6; Col. 7: 62 – Col. 8: 26). Golubic discloses that the display of the impact point results from computation of the trajectory (Col. 2: 42-50).

With regard to the limitation of trajectory calculating software capable of calculating the flight path and impact point of the projectile based on variable data entered by a user, Golubic discloses a trajectory calculating microprocessor unit, which calculates trajectory based on sensor data and user-entered parameter data (Fig. 5; Col. 5: 14-26; Col. 5: 63 – Col. 6: 27; Block 803 in Fig. 8). Golubic does not disclose displaying a flight path of the projectile. Richardson et al. teach a sports simulation system which displays a simulated launched projectile following a calculated trajectory (Paragraph [0014]). Richardson et al. discloses an archery simulator to be in the related field of the invention (Paragraphs [0005 – 0006]). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Richardson et al. into the invention of Golubic in order to provide the user with the ability to switch between images, one of them being a simulated launched projectile.

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With regard to the limitation of an archery bow, Golubic does not disclose using a bow and arrow. Richardson teaches using a bow and arrow in a hunting simulation (Paragraphs [0005 – 0006]). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Richardson et al. into the invention of Golubic in order to provide a hunting simulation using bow and arrows.

With regard to the added limitations of “mobile” to the data capture unit and display screen, it has been held that to make a device portable or movable, in this case “mobile”, does not by itself make a device distinguished patentably unless there are new or unexpected results. See MPEP §2144.04(V).

Golubic does not disclose a momentum suppression device for providing back pressure to the bow string upon release of the drawn string substantially commensurate to that which an arrow imparts when actually fired from the bow. However, Pellerite discloses this feature (Fig. 1, Col. 2, Lines 50-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a momentum suppression device to include a momentum suppression device including the pneumatic chamber or piston and rod of Pellerite such that training can be safely accomplished without emitting a projectile.

With regard to claim 4, and the limitation wherein the image data comprises video data, and the image editing software comprises video editing software capable of generating frame inlays from portions of the flight path of the projectile and incorporating the frame inlays into the video data based on the calculations performed by the trajectory calculating software program, and displaying edited frames on the display screen, Golubic discloses deriving the impact point based on the

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trajectory calculations, and displaying the target image with the impact point superimposed over the image presented to the operator (Col. 7: 46-61). Golubic discloses image data comprising video data (Col. 6: 37-43).

With regard to claim 5, and the limitation wherein the image editing software and the trajectory calculating software enable display of a site zero impact location on the screen, Golubic discloses the display of a impact-point reticle which indicates where the projectile discharged from the rifle will impact relative to the zero-range reticle (Col. 2: 36-41; Col. 5: 27-27).

With regard to claim 7, and the limitation wherein the image editing software and the trajectory calculating software enable display on the display screen of images adjacent an intended target and interplay between such images and the projectile, Golubic discloses the feature of switching between display modes (Col. 4: 37-55). Golubic does not disclose that one of the images displayed is that of the projectile. Richardson et al. teach this feature, as described above.

With regard to claim 8, and the limitation wherein the image editing software and the trajectory calculating software provide the user with shot result information, Golubic discloses that a second image can be recorded at the time of impact, and a comparison of the images can indicate the success in target acquisition (Col. 3: 38-41; Col. 5: 59-62; Col. 7: 62 – Col. 8: 26). Additionally,

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Golubic discloses that the display is capable of displaying an impact point along with the images developed by the range finder (Items 62 and 63 in Fig. 6; Col. 7: 62 – Col. 8: 26).

With regard to claims 20-22, the momentum suppression rod as disclosed by Pellerite includes a rod with first and second ends being connected to the archery bow and the bow string (Figs. 1-4). Pellerite also discloses the momentum suppression rod is mechanically actuated, comprises a friction rod, and is pneumatically actuated (Abstract).

With regard to Claim 31, Golubic discloses a charge coupled device camera (Col. 3: 3-10).

6. Claims 18 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. (US 2005/0023763) and Pellerite (US Patent No. 7,216,643), as applied to claims 1 and 38 above, and further in view of Smith et al. (US 4,494,198). Golubic disclose a simulated hunting application (Col. 2: 11-31).

With regard to claims 18 and 39, and the limitation wherein a pre-shot adjustment is made by firing an initial, simulated shot, estimating one or more shot parameters based on analysis of the initial, simulated shot and its corresponding flight path, and adjusting one or more of the shot parameters prior to firing of the next simulated shot at the same intended target, Golubic discloses zoom knob to control a zoom lens, and a focus knob that the user can manipulate to adjust a range

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determination unit (Col. 4: 43-55). Golubic disclose that the user can use the aforementioned knobs to manually enter signals to the trajectory calculator (Col. 5: 63 – Col 6: 27). Golubic also discloses that the user can observe the effects of changing the parameters, on the screen (Col. 7: 10-12). Golubic also discloses a mode of operation in which the impact point is not displayed until after the trigger mechanism has been activated, thus allowing comparison against the result determined by the trajectory calculator (Col. 7: 57-61). The aforementioned citations are meant to illustrate that the invention of Golubic is capable of being used in the manner specified in the claim. However, Golubic, as modified by Richardson et al. and Pellerite, does not specifically disclose the steps wherein the user fires an initial shot, estimates parameters based on the initial shot and its corresponding flight path, and adjusts parameters prior to firing of the next shot. Smith et al. teach a gun fire control system, which includes a rangefinder (Col. 1: 4-7). Smith et al. teach that a user fires a first shot at a target, and assess the range-adjustment required to achieve a hit on the target, moves the gun to the adjusted ballistic range and fires again (Col. 4: 23-38). Smith et al. teach that this provides the advantage wherein the displayed ballistic range for all subsequent true range values will be of sufficient accuracy to provide a high probability of a hit with minimal need for adjustment by the operator (Col. 4: 34-37). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Smith et al. into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide the aforementioned advantage.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite (US Patent No. 7,216,643), as applied to claim 1 above, and further in view of McGivern (US 2003/0101604).

With regard to claim 17, Golubic, as modified by Richardson et al. and Pellerite, does not disclose the display comprising a liquid crystal display. McGivern teaches this feature. McGivern teaches that an LCD display is suitable for a low-power application (Col. 2: 32-59). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of McGivern into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator with an LCD display, suitable for a low power application.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 1 above, and further in view of Edwards (US 6,871,439).

With regard to claim 6, Golubic, as modified by Richardson et al. and Pellerite, does not disclose deriving the impact point using a predetermined algorithm indicating a change in pixel size given corresponding target distance changes. Edwards teaches a target actuated weapon which uses the aforementioned feature to derive the impact point, or *target centroid* (Col. 19: 32-49). Edwards teaches that this feature increases the likelihood of creating a casualty. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Edwards into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide the aforementioned advantage.

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9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 1 above, and further in view of Kendir (US 2005/0153262).

With regard to claim 9, Golubic, as modified by Richardson et al. and Pellerite, does not disclose the shot result information comprising whether or not the shot was a “kill” shot. Kendir teaches a firearm training system which notifies the user, via LED’s, upon detection of a hit (Paragraph [0092], [0094]). Kendir also teaches that the system records shot result information, such as “kill shot” and “wounded shot”, etc. (Paragraph [0135]). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Kendir into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator which records whether a shot was a “kill shot” or not.

10. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 1 above, and further in view of LaBelle et al. (US 7,053,992).

With regard to claim 10, Golubic, as modified by Richardson et al. and Pellerite, does not disclose the limitation wherein the image editing software and the trajectory calculating software provide the user with information concerning target speed at the time of the shot. LaBelle et al. teach a rangefinder which provides the user with the speed of the target (Item 314 in Fig. 3; Col. 4: 58 – Col. 5: 3). It would have been obvious to one of ordinary skill in the art at the time of invention

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to incorporate the teaching of LaBelle et al. into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator with which the user may view the speed of the target.

With regard to claim 12, Golubic discloses a range finder, as previously described. Golubic, as modified by Richardson et al. and Pellerite, does not disclose using a laser range finder. LaBelle et al. teach a range finder which uses lasers. LaBelle et al. also teach that the laser rangefinder may be used in hunting, and may comprise a gun (Col. 3: 48-62). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of LaBelle et al. into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator using a laser rangefinder.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 1 above, and further in view of Hawkes et al. (US 6,237,462).

With regard to claim 11, and the limitation wherein the data capture unit further comprises a microphone for capturing audio data corresponding to the captured image and range-finding data, Golubic discloses that the camera used may be a commercially available video recorder/camera unit (Col. 9: 1-19). Although such units are known to have audio recording capabilities, Golubic, as modified by Richardson et al. and Pellerite, does not explicitly disclose the inclusion of a

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microphone for audio recording. Hawkes et al. teach a portable aiming system which may include a directional microphone (Col. 6: 4-10). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Hawkes et al. into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator which uses a microphone to record the audio emitted from the target.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 1 above, and further in view of Sammut et al. (US 2005/0021282).

With regard to claim 13, Golubic, as modified by Richardson et al. and Pellerite, does not disclose using a clinometer to increase shot accuracy by accounting for slope or tilt angle of the hunting instrument relative to the intended target. Sammut et al. teach a method and apparatus for calculating aiming point information, which may include a clinometer for measuring angles between the barrel and the horizontal axis (Paragraph [0182]). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Sammut et al. into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator with which the user can measure the uphill or downhill slope angle with a clinometer.

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13. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 1 above, and further in view of Giry et al. (US 5,675,112).

With regard to claim 14, Golubic, as modified by Richardson et al. and Pellerite, does not disclose the limitation wherein the image data may be transmitted from the data capture unit to an electrical apparatus such as a computer or PDA. Giry et al. teach an aiming device for weapons, which includes a computer receiving digitized information from the cameras, one of which is mounted to the gun. Giry et al. teach that this feature allows the computer to provide symbology, such as a real-time depiction axis of fire of the weapon (Item 83 in Fig. 5; Col. 3: 5-23). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Giry et al. into the invention of Golubic, as modified by Richardson et al. and Pellerite, in order to provide a hunting simulator in which the image data is transmitted to a computer.

With regard to claim 15, and the limitation wherein the flight path of the projectile and the impact point of the intended target may be viewed on the display screen without first having to download the image data to the computer, Golubic discloses that the user may view the flight path and impact point on the display screen (Col. 6: 61 – Col. 7: 61). The invention of Golubic, as modified by Richardson et al., does not require downloading the image data to a computer at all. Therefore, it follows that the invention of Golubic allows for viewing of an image that has not been downloaded to a computer.

With regard to claim 16, and the limitation wherein the display screen is enabled to provide multi-shot displays corresponding to a plurality of projectiles, Golubic discloses that the display unit can record multiple impact points on a stored field of view images (Col. 2: 57-61; See also claim 8).

14. Claims 23, 24, 26, 27, 28, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 20 above, and further in view of Shimokura et al. (US Patent No. 4,596,320).

With regard to claim 23, Golubic does not disclose a cavity and a piston movable within the cavity, the piston being capable of providing back pressure to the bow string, wherein the cavity comprises a cavity wall and inner and outer chambers separated by a displacement valve, the inner chamber houses the piston, the outer chamber includes first and second compartments, and the first compartment contains a compressed gas and the second compartment contains a liquid.

Pellerite discloses a piston movable with a cavity, the piston capable of providing back pressure to the bow string (Fig. 1, Col. 2, Lines 50-66).

Shimokura et al. disclose a hydraulic damper including a piston (7), a cavity wall and inner (1) and outer chambers (2) separated by displacement valves (Col. 4, Lines 10-41), the outer chamber includes a first compartment of compressed gas and a second compartment of liquid (Col. 3, Line 67-Col. 4, Line 3).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the pneumatic piston of Golubic, Richardson et al., and Pellerite with the hydraulic piston damper of Shimokura, thereby providing a more efficient method of providing back pressure.

With regard to claim 24, Golubic does not disclose the displacement valve being adjustable from the outside of the momentum suppression rod to allow varying rates of rod release and back-pressure.

Shimokura et al. disclose a valve adjustable from the outside of the piston to allow varying rates of rod release and back-pressure (Col. 4, Lines 42-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to include an adjustable valve that is adjustable from the outside to allow the user an easy method to change the amount of pressure.

With regard to claim 26, Shimokura et al. disclose that the compressed gas is nitrogen gas (Col. 4, Lines 2-3).

With regard to claim 27, Shimokura et al. disclose that the liquid is a low viscosity oil (Col. 3, Line 68-Col. 4, Line 1).

With regard to claim 28, Golubic does not specifically disclose the piston, inner and outer chambers, and cavity wall are machined to substantially minimize rod flex and distortion.

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Pellerite discloses that the piston is used to prevent damage to the bow and components (Abstract).

Examiner takes OFFICIAL NOTICE that it is well known in the art to manufacture items in a way to substantially minimize flex and distortion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to machine the parts to minimize rod flex and distortion such that the parts may be used a plurality of times.

With regard to claims 35-36, Golubic does not disclose the limitation wherein release of the drawn bowstring causes the piston to reenter the inner chamber and forces the liquid back through the displacement valve and into the outer chamber, and also recompresses the gas.

Pellerite discloses that release of the bowstring causes the piston to reenter the inner chamber (Col. 2, Lines 58-61).

Shimokura et al. disclose liquid, gas, an inner chamber, and an outer chamber, as discussed above.

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Pellerite into the invention of Golubic, Richardson et al., Pellerite, and Shimokura et al., as this feature is part of the rod and piston system.

15. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al., Pellerite, and Shimokura et al., as applied to claim 23 above, and further in view of Jakubowski, Jr. et al. (US Patent No. 6,073,886).

With regard to claims 29 and 30, Gobulic does not disclose the limitation wherein the piston is a multistage piston capable of extending in multiple portions, and having inner and outer extension limiters which engage outer extension limiters at each stage of extension of the piston, thereby allowing each progressive piston portion of the multistage piston to extend when the previous portion has substantially reached its maximum extension point.

Jakubowski, Jr. et al. disclose a piston-rod assembly which may employ compound telescopic configurations (Fig 3, 8) including a plurality of inner and outer limiters at each stage of the extension of the piston (Fig. 8).

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Bergstrom into the invention of Golubic, Richardson et al., Pellerite, and Shimokura et al. in order to provide a momentum suppression mechanism which allows more force to be dissipated in a small-lengthed device.

16. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 20 above, and further in view of Tann (US 4,316,145).

Golubic does not disclose one or more proximity sensors in the cavity.

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Tann teaches a rod and piston assembly which uses proximity sensors to sense the position of the piston (Col. 2: 9-20).

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a proximity sensor in order to sense the position of the piston.

17. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al., Pellerite, and Tann, as applied to claim 32 above, and further in view of Adcock (US 6,718,962).

Golubic, in view of Richardson et al., Pellerite, and Tann, do not disclose proximity sensors with reaction time between 0.2-0.9 milliseconds.

Adcock teaches that arrows can travel with velocities of between 188 and 206 feet per second. For an arrow to traverse a length of between one and two feet, it would take around 0.5 milliseconds.

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Adcock in order to calculate the necessary reaction time for the proximity sensors.

18. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic in view of Richardson et al. and Pellerite, as applied to claim 20 above, and further in view of Eppenstein (US 2,040,171).

Golubic does not disclose an altimeter.

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Eppenstein teaches an apparatus which combines a rangefinder and altimeter (Col. 3: 1-11). It would have been obvious to one of ordinary skill in the art at the time of invention to include an altimeter in order to provide the added functionality of determining the altitude.

Response to Arguments

19. Applicant's arguments with respect to the combinations of Swensen and Garthe, and Swensen and Bergstrom have been considered but are moot in view of the new ground(s) of rejection.

20. Applicant's arguments filed 7/18/2007 have been fully considered but they are not persuasive. Applicant argued that "Gobulic is of a completely different subject matter as a whole than Richardson because the data capture and display devices are not similarly oriented, and only Richardson teaches a bow an arrow". However, both Gobulic and Richardson are related in the field of hunting and targeting simulating; the fact that the data capture and display devices are not similarly oriented does not place Gobulic and Richardson as different subject matter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Cheung whose telephone number is (571) 270-1349. The examiner can normally be reached on Mon-Fri, 9-5:00.

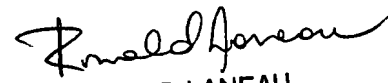
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VC

Victor Cheung
November 29, 2007


RONALD LANEAU
PRIMARY EXAMINER
12/3/07